

Claims

1. A pressure booster for a fuel injection device, having a piston-shaped pressure boosting element (5) that is accommodated in a housing (10) and divides a working chamber (2) and a differential pressure chamber (6) from each other; a control line (7) is in a position to connect the differential pressure chamber (6) to a high-pressure source or to pressure-relieve it into a low-pressure region and the piston-shaped pressure boosting element (5) is acted on by a return spring (13), which rests against an annular insert (15) of the housing (10), characterized in that the insert (15, 35) is provided with a damper throttle (24) via which fuel flows from the working chamber (2) of the pressure booster (1) into a hydraulic chamber (22) when the pressure in the differential pressure chamber (6) is relieved.
2. The pressure booster according to claim 1, characterized in that a delimiting surface (23) of the insert (15, 35) and a hydraulically effective surface (32, 34) on the piston-shaped pressure boosting element (5) delimit the hydraulic chamber (22).
3. The pressure booster according to claim 1, characterized in that the action of the damper throttle (24) is canceled after the pressure damping element (5) has traveled a particular stroke distance.
4. The pressure booster according to claim 2, characterized in that in the idle position of the piston-shaped pressure boosting element (5), the insert (15, 35) covers over an annular surface (34) of the piston-shaped pressure boosting element (5) adjoining the hydraulically effective surface (32).

5. The pressure booster according to claim 1, characterized in that the insert (15) functioning as a damping element has an outer ring (19) and has an inner ring (20) that delimits a through opening (28).
6. The pressure booster according to claim 5, characterized in that the outer ring (19) rests on a support surface (17) of a housing part (10.2) of the housing (10).
7. The pressure booster according to claim 5, characterized in that the outer ring (19) is accommodated in a recess of a wall (11) of the working chamber (2) of the pressure booster.
8. The pressure booster according to claims 1 and 3, characterized in that the piston-shaped pressure boosting element (5) has a control edge (25), which the insert (15, 35) covers in the idle position of the piston-shaped pressure boosting element (5).
9. The pressure booster according to claim 8, characterized in that the piston-shaped pressure boosting element (5) has open surfaces (26) adjoining the control edge (25); the circumference surface of the pressure boosting element (5) in the region of the open surfaces (26) serves to guide and/or center the return spring (13).
10. The pressure booster according to claim 9, characterized in that the open surfaces (26) are embodied as ground surfaces on the piston-shaped pressure boosting element (5).
11. The pressure booster according to claim 9, characterized in that the open surfaces (26) extend into the working chamber (2).

12. The pressure booster according to claim 1, characterized in that the insert (35) functioning as a damping element is embodied as disk-shaped and is accommodated in a recess (18) of a first housing part (10.1) of the housing (10).